Sixteen days later one rat and the guinea-pig were autopsied, and in the blood of each were found spirochetes, fairly numerous in the rat blood, but scarce in that of the guinea-pig. These spirochetes agreed very closely in morphology with the descriptions of Leptospira morsis-muri given in various texts. The other rat was allowed to live six weeks, and no spirochetes were found in its blood at autopsy.

Three intravenous injections of neoarsphenamin, three-tenths gram each, were given at four-day intervals. We started this before the laboratory had confirmed our diagnosis, because we hesitated to subject the patient to another such attack of fever. Fortunately, however, confirmation was soon forthcoming.

The patient had no more attacks of fever, and was soon discharged as recovered. In a recent communication from his mother, I am told that he had one or two attacks of malaise and light fever about a month after leaving the hospital, and also had a red rash in the right axilla which disappeared spontaneously. Whether these bore any relationship to his previous illness I cannot state. Otherwise he has been well for six months.

SUMMARY

- 1. A proved case of rat-bite fever occurring in Oakland is presented.
- 2. Inoculation of laboratory animals is the only method of laboratory diagnosis offering any certainty.

Fairmont Hospital.

AN UNUSUAL BRAIN INJURY

By Alfred H. Tickell, M. D.

Nevada City

HEREWITH find a report on an unusual case of brain injury, with recovery.

REPORT OF CASE

On July 25, 1934, at 1 p. m., Mrs. A., age about 30, attempted suicide at her home in Truckee, California, by shooting herself through the head with a 32-caliber automatic revolver.

Mrs. A. was received at the Nevada County Hospital, Nevada City, California, at 6:15 p. m. the same

day, where examination showed powder-burned point of entrance through the right temporal region, and the point of exit on the left side at a slightly higher level; the bullet passing, without doubt, anterior to the motor zone.

The woman was semi-conscious, suffering from hemorrhage and shock. There was considerable bleeding, and the eyes greatly swollen and ecchymosed due to laceration of cerebral vessels. Brain substance was coming from both bullet holes.

Tetanus antitoxin was given, and the wounds carefully cleansed, and small, loose pieces of bone removed at point of exit.

A few sutures were temporarily placed, with the idea of partly checking the hemorrhage, with aseptic packs and bandages. The sutures were removed twelve hours later, and the wound dressed every eight hours until cessation of bleeding.

During this period there was a constant loss of brain substance, totaling about half an ounce by volume. On July 28, Dr. Howard C. Naffziger of San Francisco was called in consultation, and advised continuance of treatment and close observation of any following symptoms before anything more radical was undertaken; finding no evidence of intracranial pressure. The patient, according to his report, was still somewhat stuporous, but the response suggested a mild degree of aphasia. He felt that the ecchymosis about the orbits indicated a probable fracture of the orbital plates. The wounds were clean, and it was felt that the patient had automatically freed herself of most of the devitalized brain tissue by extrusion of it through the wounds. There was no tendency, as a matter of fact, for the formation of a brain fungus at either wound.

For the first ten days the patient's temperature ranged from normal, in the morning, to 101 degrees Fahrenheit in the evening; and she was slightly irrational for the first four days.

Excretions were involuntary for the first ten days. Medication was confined to an occasional hypodermic of morphin.

After this date the patient's symptoms were negative, except some headache and restlessness, since cleared up. Her reflexes and special senses were normal, and have remained so, with the openings in the skull closed. The points of penetration are shown in the accompanying photographs.

The patient returned to her home on August 25. Office of County Physician.



Fig. 1.—Showing entrance site of bullet.

Fig. 2.—Showing exit site of bullet.